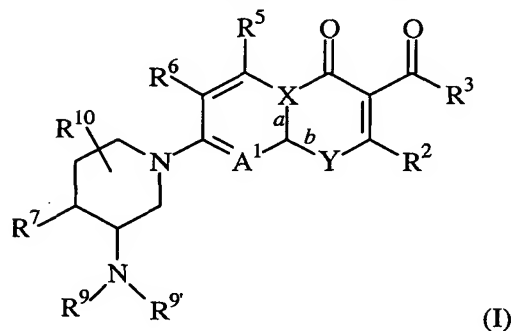


What is claimed is:

1. A compound having a structure according to Formula (I)

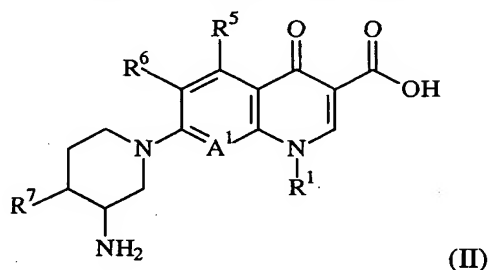


wherein:

- (A) (1)  $A^1$  is selected from -N- and -C(R<sup>8</sup>)-, where R<sup>8</sup> is selected from hydrogen, halo, C<sub>1</sub> to about C<sub>6</sub> alkoxy, C<sub>1</sub> to about C<sub>6</sub> alkylthio, C<sub>1</sub> to about C<sub>6</sub> alkyl, C<sub>1</sub> to about C<sub>6</sub> alkene and alkyne;
- (2) (a) X is selected from -C- and -N-, where (i) if X is -C-, *a* is a double bond and *b* is a single bond, and (ii) if X is -N-, *a* is a single bond and *b* is a double bond; and  
 (b) Y is selected from -N(R<sup>1</sup>)- and -C(R<sup>1</sup>)-;  
 (c) provided that Y is N(R<sup>1</sup>) only if X is -C- and Y is -C(R<sup>1</sup>)- only if X is -N-;
- (3) R<sup>1</sup> is selected from C<sub>3</sub> to about C<sub>6</sub> cycloalkyl, C<sub>4</sub> to about C<sub>6</sub> heterocycloalkyl, C<sub>1</sub> to about C<sub>6</sub> alkyl, C<sub>1</sub> to about C<sub>6</sub> alkene, a 6-membered aryl and a 6-membered heteroaryl;
- (4) R<sup>2</sup> is hydrogen;
- (5) R<sup>3</sup> is selected from hydrogen and hydroxy;
- (6) R<sup>5</sup> is selected from hydrogen, hydroxy, amino, halo, C<sub>1</sub> to about C<sub>6</sub> alkyl, C<sub>1</sub> to about C<sub>6</sub> alkene-and C<sub>1</sub> to about C<sub>6</sub> alkoxy;
- (7) R<sup>6</sup> is selected from fluoro and chloro;
- (8) R<sup>7</sup> is -Q-C(R<sup>11</sup>)(R<sup>11'</sup>)(R<sup>11''</sup>), where Q is selected from -S-, -O- and -C(R<sup>12</sup>)(R<sup>12'</sup>)-, where R<sup>12</sup> and R<sup>12'</sup> are each independently selected from hydrogen and fluoro; where R<sup>11</sup>, R<sup>11'</sup> and R<sup>11''</sup> are each independently selected from hydrogen, hydroxy and halo; and where R<sup>11</sup> and R<sup>12</sup> may also both be nil, such that a double bond is formed between the respective carbon atoms;

- (9)  $R^9$  and  $R^{9'}$  are each independently selected from hydrogen and  $C_1$  to about  $C_{15}$  alkyl, or  $R^9$  and  $R^{9'}$  join to form a heterocyclic ring containing the nitrogen atom to which they are bonded; and
- (10)  $R^{10}$  represents the moieties on the piperidine ring other than  $R^7$  and  $-NR^9R^{9'}$ , where each  $R^{10}$  is independently selected from hydrogen,  $C_1$  to about  $C_6$  alkyl and fluoro; or
- (B) if  $A^1$  is  $-C(R^8)-$ , X is  $-C-$  and Y is  $-N(R^1)-$ , then  $R^8$  and  $R^1$  can join to form a 6-membered heterocyclic ring, where  $R^2, R^3, R^5, R^6, R^7, R^8, R^9, R^{9'}$  and  $R^{10}$  are as described in (A); or
- (C) if  $A^1$  is  $-C(R^8)-$ , X is  $-C-$  and Y is  $-N(R^1)-$ , then  $R^1$  and  $R^2$  can join to form a monocyclic or bicyclic heterocyclic ring, where  $R^3, R^5, R^6, R^7, R^8, R^9, R^{9'}$  and  $R^{10}$  are as described in (A); or
- (D) if  $A^1$  is  $-C(R^8)-$ , X is  $-C-$  and Y is  $-N(R^1)-$ , then  $R^2$  and  $R^3$  can join to form a 5-membered heterocycloalkyl that is substituted with a carbonyl moiety, where  $R^1, R^5, R^6, R^7, R^8, R^9, R^{9'}$  and  $R^{10}$  are as described in (A);
- or an optical isomer, diastereomer or enantiomer thereof; a pharmaceutically-acceptable salt, hydrate, or biohydrolyzable ester, amide or imide thereof.
2. A compound of Claim 1 wherein  $R^1$  is selected from  $C_3$  to about  $C_6$  cycloalkyl,  $C_3$  to about  $C_6$  heterocycloalkyl,  $C_1$  to about  $C_4$  alkyl and  $C_2$  to about  $C_4$  alkene.
  3. A compound of Claim 2 wherein  $R^1$  is selected from cyclopropyl, methyl, ethyl, t-butyl, 4-hydroxyphenyl and 2,4-difluorophenyl.
  4. A compound of Claim 1 wherein  $R^3$  is hydroxy.
  5. A compound of Claim 1 wherein  $R^5$  is selected from hydrogen, hydroxy, chloro, bromo, amino, methyl, monofluoromethyl, difluoromethyl and trifluoromethyl.
  6. A compound of Claim 1 wherein each of  $R^{11}, R^{11'}$  and  $R^{11''}$  is hydrogen.
  7. A compound of Claim 1 wherein  $R^7$  is selected from methoxy, thiomethoxy and ethyl.

8. A compound of Claim 7 wherein  $R^7$  is ethyl.
9. A compound of Claim 1 wherein  $R^9$  and  $R^9$  are each independently selected from hydrogen and methyl.
10. A compound of Claim 9 wherein  $R^9$  and  $R^9$  are both hydrogen and each  $R^{10}$  is hydrogen.
11. A compound having a structure according to Formula (II)

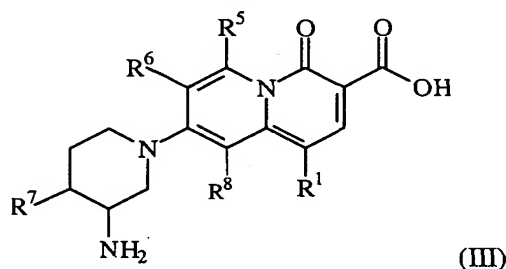


wherein:

- (A) (1)  $A^1$  is selected from  $-N-$  and  $-C(R^8)-$  where  $R^8$  is selected from hydrogen, halo,  $C_1$  to about  $C_6$  alkoxy,  $C_1$  to about  $C_6$  alkylthio,  $C_1$  to about  $C_6$  alkyl,  $C_1$  to about  $C_6$  alkene and  $C_1$  to about  $C_6$  alkyne;
- (2)  $R^1$  is selected from  $C_3$  to about  $C_6$  cycloalkyl,  $C_4$  to about  $C_6$  heterocycloalkyl,  $C_1$  to about  $C_6$  alkyl,  $C_1$  to about  $C_6$  alkene, a 6-membered aryl and a 6-membered heteroaryl;
- (5)  $R^5$  is selected from hydrogen, hydroxy, amino, halo,  $C_1$  to about  $C_6$  alkyl,  $C_1$  to about  $C_6$  alkene and  $C_1$  to about  $C_6$  alkoxy;
- (6)  $R^6$  is selected from fluoro and chloro; and
- (7)  $R^7$  is  $-Q-C(R^{11})(R^{11'})(R^{11''})$ , where  $Q$  is selected from  $-S-$ ,  $-O-$  and  $-C(R^{12})(R^{12'})-$ , where  $R^{12}$  and  $R^{12'}$  are each independently selected from hydrogen and fluoro; where  $R^{11}$ ,  $R^{11'}$  and  $R^{11''}$  are each independently selected from hydrogen, hydroxy and halo; and where  $R^{11}$  and  $R^{12}$  may also both be nil, such that a double bond is formed between the respective carbon atoms; or
- (B)  $R^8$  and  $R^1$  join to form a 6-membered heterocyclic ring, where  $R^5$ ,  $R^6$  and  $R^7$  are as described in part (A);

or an optical isomer, diastereomer or enantiomer thereof, or a pharmaceutically-acceptable salt, hydrate, or biohydrolyzable ester, amide or imide thereof.

12. A compound of Claim 11 wherein  $A^1$  is  $-C(R^8)-$ .
13. A compound of Claim 12 wherein  $R^6$  is fluoro.
14. A compound of Claim 12 wherein  $R^8$  and  $R^1$  do not join to form a 6-membered heterocyclic ring.
15. A compound of Claim 14 wherein  $R^1$  is selected from cyclopropyl, methyl, ethyl, t-butyl, 4-hydroxyphenyl and 2,4-difluorophenyl.
16. A compound of Claim 13 wherein  $R^5$  is selected from hydrogen, hydroxy, chloro, bromo, amino, methyl, monofluoromethyl, difluoromethyl and trifluoromethyl.
17. A compound of Claim 13 wherein  $R^7$  is selected from methoxy, thiomethoxy and ethyl.
18. A compound of Claim 17 wherein  $R^7$  is ethyl.
19. A compound having a structure according to Formula (III)



wherein:

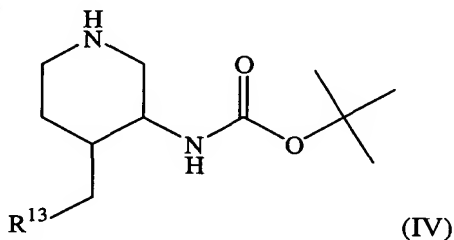
- (A) (1)  $R^8$  is selected from hydrogen, halo,  $C_1$  to about  $C_6$  alkoxy,  $C_1$  to about  $C_6$  alkylthio,  $C_1$  to about  $C_6$  alkyl,  $C_1$  to about  $C_6$  alkene and  $C_1$  to about  $C_6$  alkyne;

- (2)  $R^1$  is selected from  $C_3$  to about  $C_6$  cycloalkyl,  $C_4$  to about  $C_6$  heterocycloalkyl,  $C_1$  to about  $C_6$  alkyl,  $C_1$  to about  $C_6$  alkene, a 6-membered aryl and a 6-membered heteroaryl;
- (5)  $R^5$  is selected from hydrogen, hydroxy, amino, halo,  $C_1$  to about  $C_6$  alkyl,  $C_1$  to about  $C_6$  alkene and  $C_1$  to about  $C_6$  alkoxy;
- (6)  $R^6$  is selected from fluoro and chloro;
- (7)  $R^7$  is  $-Q-C(R^{11})(R^{11'})(R^{11''})$ , where  $Q$  is selected from  $-S-$ ,  $-O-$  and  $-C(R^{12})(R^{12'})-$ , where  $R^{12}$  and  $R^{12'}$  are each independently selected from hydrogen and fluoro; where  $R^{11}$ ,  $R^{11'}$  and  $R^{11''}$  are each independently selected from hydrogen, hydroxy and halo; and where  $R^{11}$  and  $R^{12}$  may also both be nil, such that a double bond is formed the respective carbon atoms;

or an optical isomer, diastereomer or enantiomer thereof, or a pharmaceutically-acceptable salt, hydrate, or biohydrolyzable ester, amide or imide thereof.

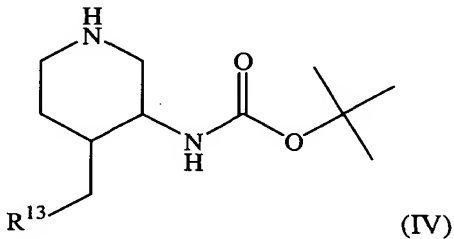
- 20. A compound of Claim 19 wherein  $R^6$  is fluoro.
- 21. A compound of Claim 20 wherein  $R^1$  is selected from cyclopropyl, methyl, ethyl, t-butyl, 4-hydroxyphenyl and 2,4-difluorophenyl.
- 22. A compound of Claim 20 wherein  $R^5$  is selected from hydrogen, hydroxy, chloro, bromo, amino, methyl, monofluoromethyl, difluoromethyl and trifluoromethyl.
- 23. A compound of Claim 20 wherein  $R^7$  is selected from methoxy, thiomethoxy and ethyl.
- 24. A compound of Claim 23 wherein  $R^7$  is ethyl.
- 25. A pharmaceutical composition comprising:
  - (a) a safe and effective amount of a compound of Claim 1; and
  - (b) a pharmaceutically-acceptable excipient.
- 26. A pharmaceutical composition comprising:
  - (a) a safe and effective amount of a compound of Claim 11; and

- (b) a pharmaceutically-acceptable excipient.
27. A pharmaceutical composition comprising:
- a safe and effective amount of a compound of Claim 19; and
  - a pharmaceutically-acceptable excipient.
28. A method for treating microbial infection comprising administering to a host in need of such a treatment a safe and antimicrobially effective amount of a compound of Claim 1.
29. A method for treating microbial infection comprising administering to a host in need of such a treatment a safe and antimicrobially effective amount of a compound of Claim 11.
30. A method for treating microbial infection comprising administering to a host in need of such a treatment a safe and antimicrobially effective amount of a compound of Claim 19.
31. A compound having a structure according to Formula (IV):



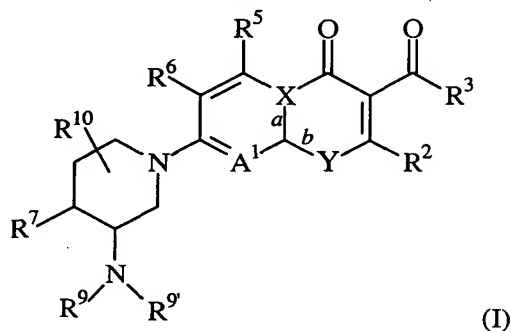
wherein  $R^{13}$  is selected from methyl, fluoro, and hydroxy;  
or an optical isomer, diastereomer or enantiomer thereof, or a pharmaceutically-acceptable salt, hydrate, or biohydrolyzable ester, amide or imide thereof.

32. A method of using a compound having a structure according to Formula (IV):



wherein  $R^{13}$  is selected from methyl, fluoro, and hydroxy;

in a process of making a compound having a structure according to Formula (I):



wherein:

- (A) (1)  $A^1$  is selected from -N- and -C( $R^8$ )-, where  $R^8$  is selected from hydrogen, halo,  $C_1$  to about  $C_6$  alkoxy,  $C_1$  to about  $C_6$  alkylthio,  $C_1$  to about  $C_6$  alkyl,  $C_1$  to about  $C_6$  alkene and alkyne;
- (2) (a) X is selected from -C- and -N-, where (i) if X is -C-,  $a$  is a double bond and  $b$  is a single bond, and (ii) if X is -N-,  $a$  is a single bond and  $b$  is a double bond; and  
(b) Y is selected from -N( $R^1$ )- and -C( $R^1$ )-;  
(c) provided that Y is N( $R^1$ ) only if X is -C- and Y is -C( $R^1$ )- only if X is -N-;
- (3)  $R^1$  is selected from  $C_3$  to about  $C_6$  cycloalkyl,  $C_4$  to about  $C_6$  heterocycloalkyl,  $C_1$  to about  $C_6$  alkyl,  $C_1$  to about  $C_6$  alkene, a 6-membered aryl and a 6-membered heteroaryl;
- (4)  $R^2$  is hydrogen;
- (5)  $R^3$  is selected from hydrogen and hydroxy;
- (6)  $R^5$  is selected from hydrogen, hydroxy, amino, halo,  $C_1$  to about  $C_6$  alkyl,  $C_1$  to about  $C_6$  alkene and  $C_1$  to about  $C_6$  alkoxy;
- (7)  $R^6$  is selected from fluoro and chloro;
- (8)  $R^7$  is -Q-C( $R^{11}$ )( $R^{11'}$ )( $R^{11''}$ ), where Q is selected from -S-, -O- and -C( $R^{12}$ )( $R^{12'}$ )-, where  $R^{12}$  and  $R^{12'}$  are each independently selected from hydrogen and fluoro; where  $R^{11}$ ,  $R^{11'}$  and  $R^{11''}$  are each independently selected from hydrogen, hydroxy and halo; and where  $R^{11}$  and  $R^{12}$  may also both be nil, such that a double bond is formed between the respective carbon atoms;

- (9)  $R^9$  and  $R^{9'}$  are each independently selected from hydrogen and  $C_1$  to about  $C_{15}$  alkyl, or  $R^9$  and  $R^{9'}$  join to form a heterocyclic ring containing the nitrogen atom to which they are bonded; and
- (10)  $R^{10}$  represents the moieties on the piperidine ring other than  $R^7$  and  $-NR^9R^{9'}$ , where each  $R^{10}$  is independently selected from hydrogen,  $C_1$  to about  $C_6$  alkyl and fluoro; or
- (B) if  $A^1$  is  $-C(R^8)-$ ,  $X$  is  $-C-$  and  $Y$  is  $-N(R^1)-$ , then  $R^8$  and  $R^1$  can join to form a 6-membered heterocyclic ring, where  $R^2, R^3, R^5, R^6, R^7, R^8, R^9, R^{9'}$  and  $R^{10}$  are as described in (A); or
- (C) if  $A^1$  is  $-C(R^8)-$ ,  $X$  is  $-C-$  and  $Y$  is  $-N(R^1)-$ , then  $R^1$  and  $R^2$  can join to form a monocyclic or bicyclic heterocyclic ring, where  $R^3, R^5, R^6, R^7, R^8, R^9, R^{9'}$  and  $R^{10}$  are as described in (A); or
- (D) if  $A^1$  is  $-C(R^8)-$ ,  $X$  is  $-C-$  and  $Y$  is  $-N(R^1)-$ , then  $R^2$  and  $R^3$  can join to form a 5-membered heterocycloalkyl that is substituted with a carbonyl moiety, where  $R^1, R^5, R^6, R^7, R^8, R^9, R^{9'}$  and  $R^{10}$  are as described in (A);
- or an optical isomer, diastereomer or enantiomer thereof; a pharmaceutically-acceptable salt, hydrate, or biohydrolyzable ester, amide or imide thereof.